

AMENDMENTS TO THE CLAIMS

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please CANCEL claims 1-21. Please ADD new claims 22-30.

1-21. (CANCELLED)

22. (NEW) An apparatus to control wavelength-division-multiplexed light, comprising:
an optical amplifier to amplify wavelength-division-multiplexed light;
a tunable optical filter to selectively output light of each wavelength of a portion of the wavelength-division-multiplexed light;
peak detection means for detecting peaks of the light from said tunable optical filter;
power detection means for detecting total power of wavelength-division-multiplexed light output from the optical amplifier;
feedback means for generating a feedback signal depending on the maximum peak value, so that a maximum peak value will become a set value, or so that the detected power will become a set power, and for inputting the feedback signal to an excitation light source of the optical amplifier; and
means for detecting optical gain, which is a power ratio of input light to said optical amplifier to output light from said optical amplifier;
wherein, in dependence upon the maximum peak value, said feedback means inputs a feedback signal to the excitation light source of said optical amplifier (1) in such a manner that the maximum peak value will become the set value, or (2) in such a manner that the detected optical gain will become a set gain.

23. (NEW) An apparatus for controlling wavelength-division-multiplexed light, comprising:
an optical-fiber amplifier for amplifying wavelength-division-multiplexed light;
optical level control means for controlling the optical level of wavelength-division-multiplexed light output from said optical-fiber amplifier;

a tunable optical filter for selectively outputting light of each wavelength of a portion of the wavelength-division-multiplexed light;

peak-value detection means for detecting peak values of the light output from said tunable optical filter; and

feedback means for controlling said optical level control means based upon the detected peak value.

24. (NEW) The apparatus according to claim 23, wherein one or more other tunable optical filters are cascade-connected to said tunable optical filter, and each of these tunable optical filters are periodically swept synchronously.

25. (NEW) The apparatus according to claim 23, further comprising a light-equalizing filter located with said tunable optical filter.

26. (NEW) An apparatus for controlling wavelength-division-multiplexed light, comprising:

a first optical-fiber amplifier for amplifying wavelength-division-multiplexed light;

optical level control means for controlling the optical level of wavelength-division-multiplexed light output from said first optical-fiber amplifier;

a second optical fiber amplifier for amplifying wavelength-division-multiplexed light output from the optical level control means;

a tunable optical filter for selectively outputting light of each wavelength of a portion of wavelength-division-multiplexed light;

peak detection means for detecting the peaks of the light output from said tunable optical filter; and feedback means for controlling said optical level control means based upon the detected peak value.

27. (NEW) The apparatus according to claim 26, further comprising power detection means for detecting power of wavelength-division-multiplexed light output from said second optical-fiber amplifier;

wherein, in dependence upon the maximum peak value, said optical level control means controls (1) in such a manner that the maximum peak value will become a set value, or (2) in such a manner that the detected power will become a set power.

28. (NEW) The apparatus according to claim 27, further comprising photoelectric conversion means for photoelectrically converting light output from said tunable optical filter and means for detecting number of multiplexed wavelengths based upon number of peaks of the electric signal output from said photoelectric conversion means;

wherein the set power is changed in conformity with the number of multiplexed wavelengths.

29. (NEW) The apparatus according to claim 26, wherein one or more other tunable optical filters are cascade-connected to said tunable optical filter, and each of these tunable optical filters are periodically swept synchronously.

30. (NEW) The apparatus according to claim 26, further comprising a light-equalizing filter located with said tunable optical filter.